

FIG. 1

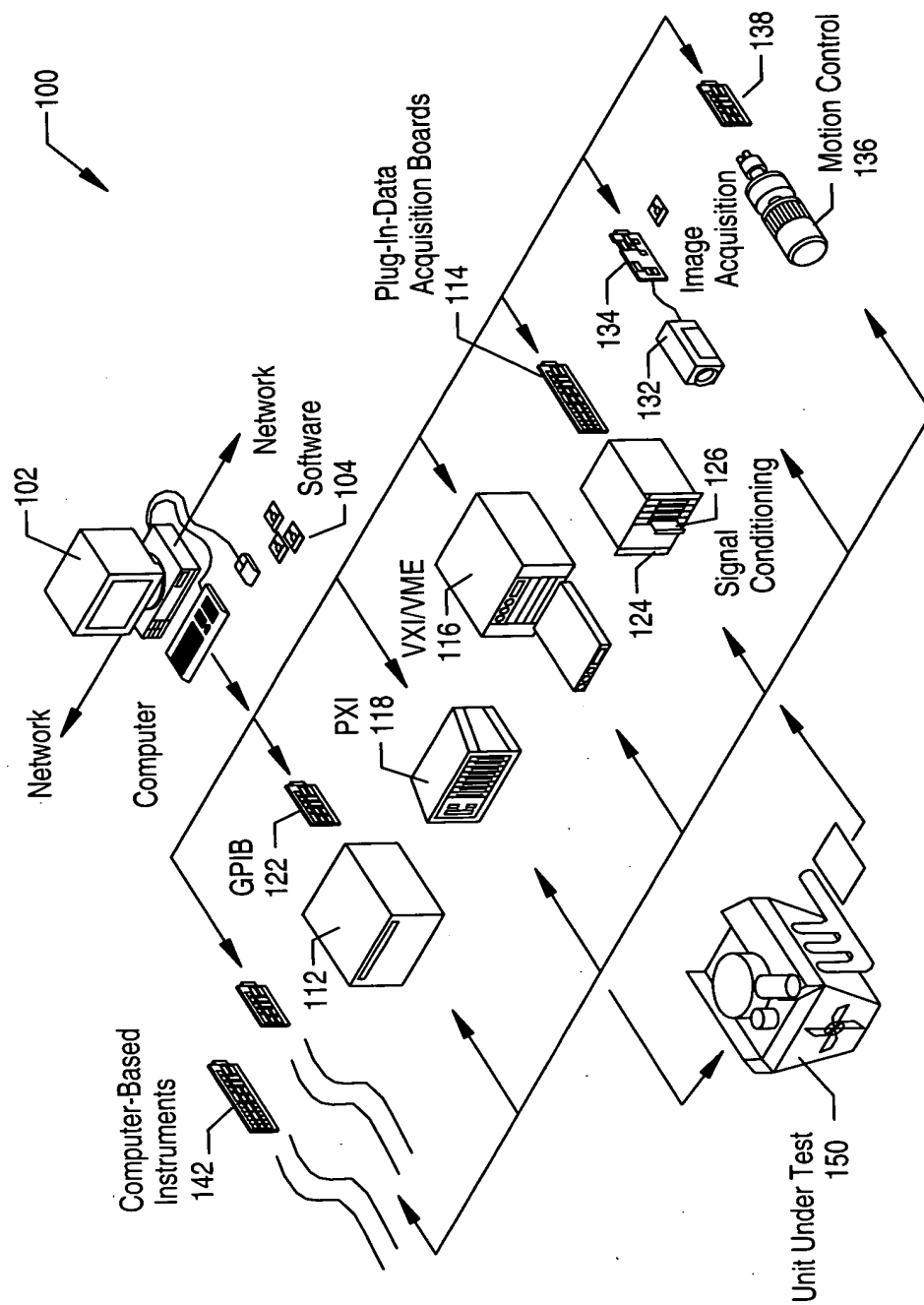


FIG. 2A

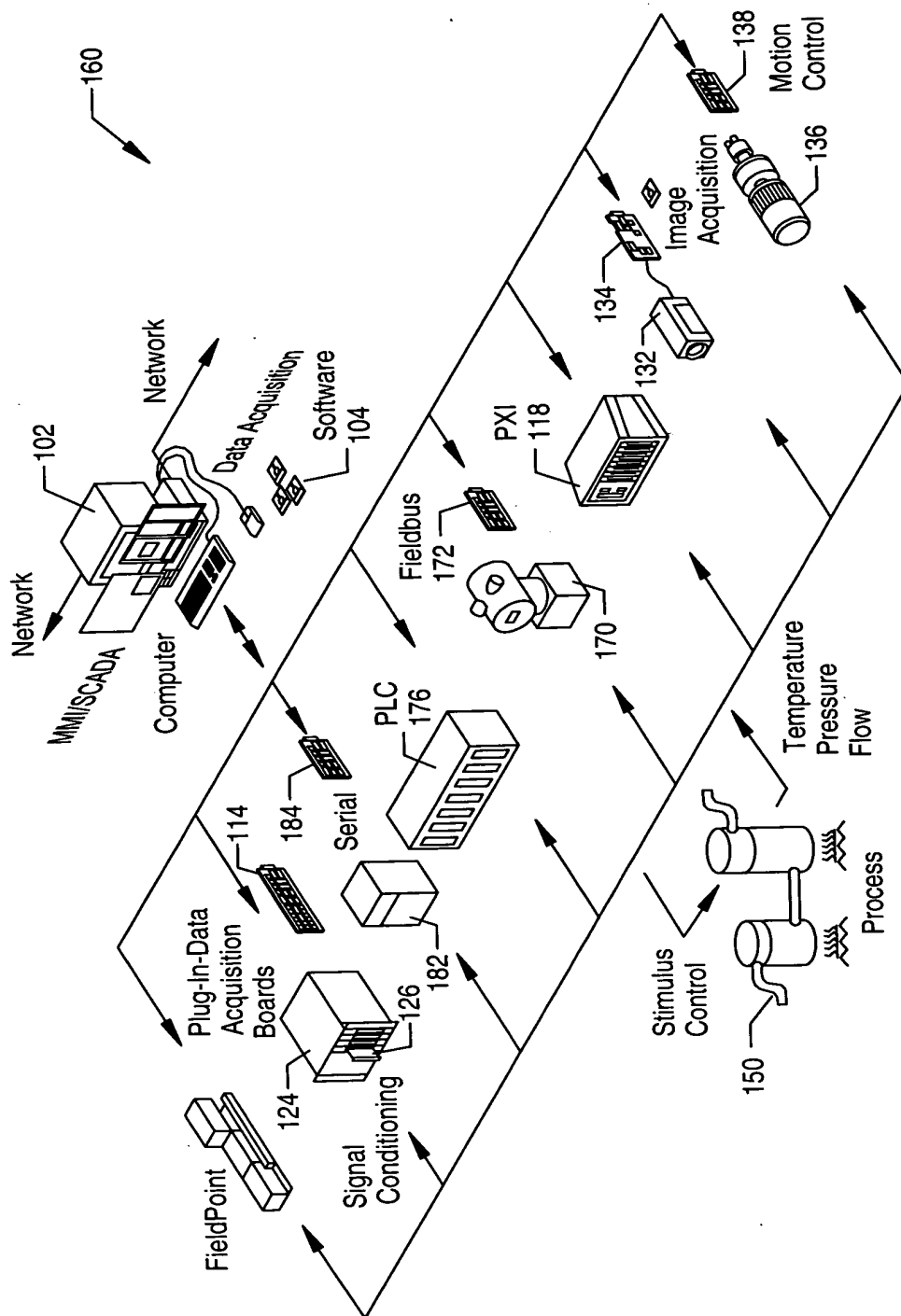


FIG. 2B

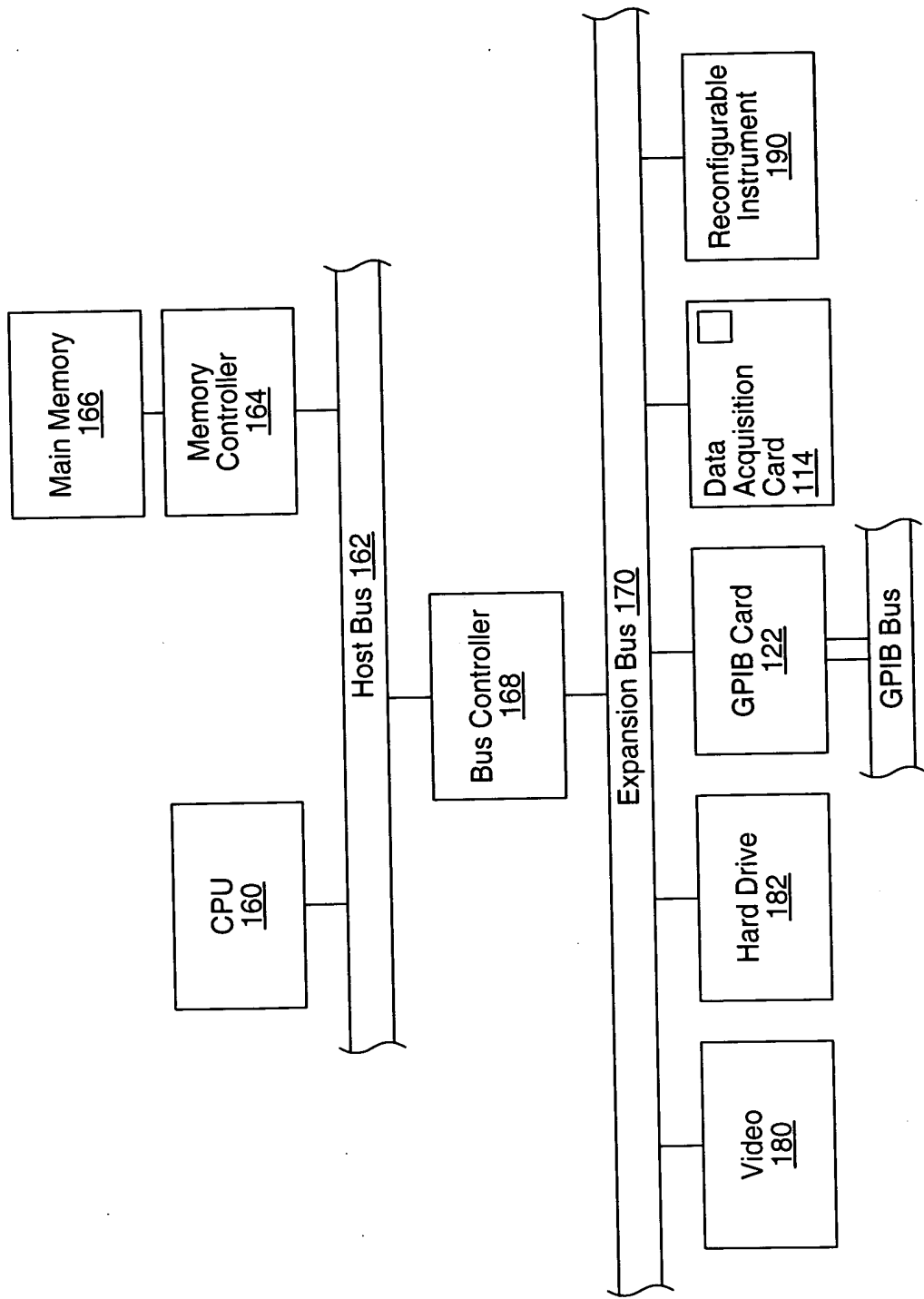


FIG. 3

Developer creates a graphical program generation (GPG) program, wherein the GPG program is operable to generate a plurality of graphical programs, based on received information

200

Specify program information, e.g., in response to user input, wherein the program information specifies desired functionality to be implemented in a graphical program

204

execute graphical program generation (GPG) program

206

GPG program receives information specifying functionality for a graphical program (or graphical program portion)

208

GPG program programmatically generates a graphical program (or graphical program portion) to implement the specified functionality

210

FIG. 4

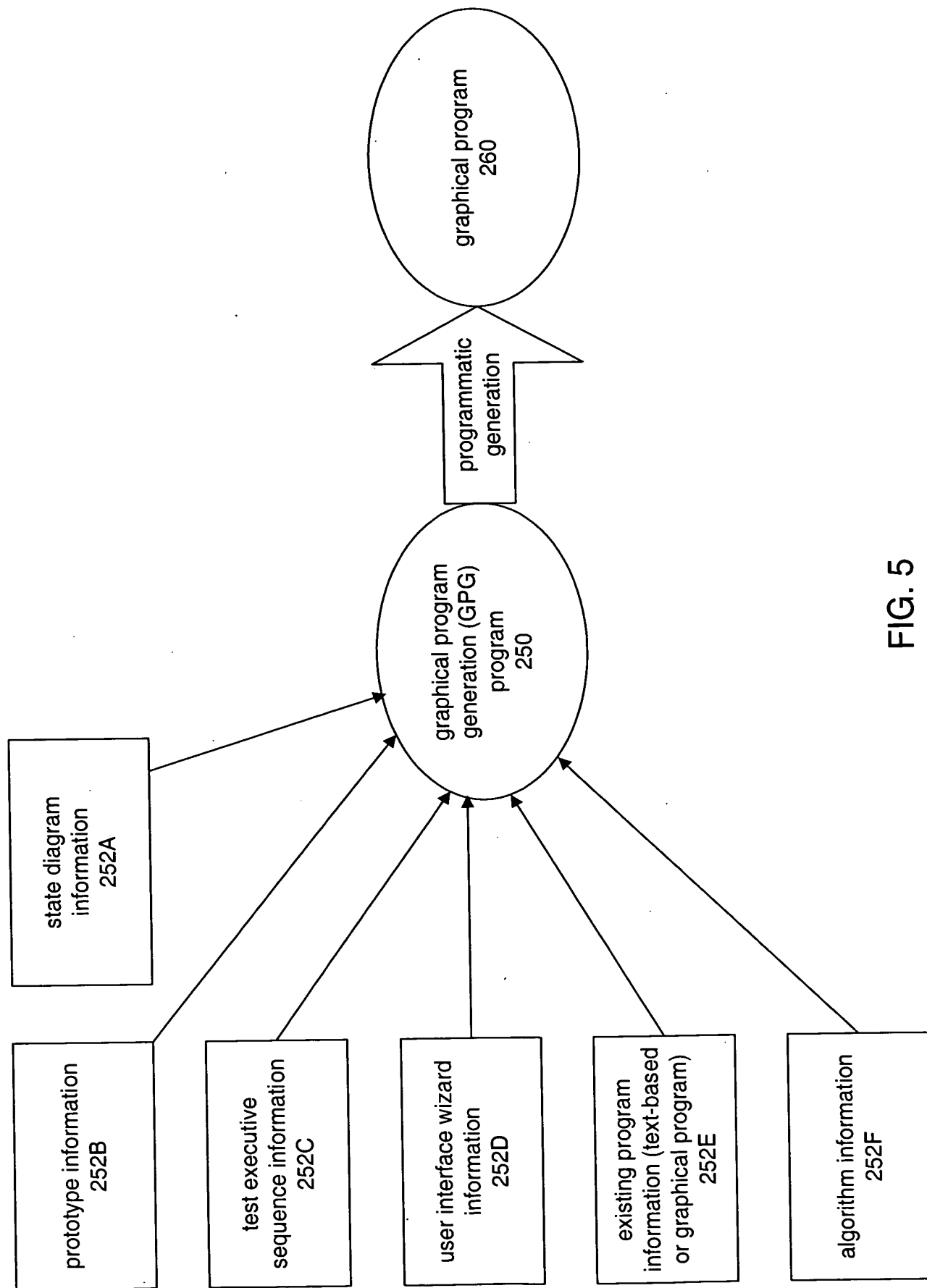


FIG. 5

Display one or more graphical user interface (GUI) input panels, wherein the GUI input panels comprise information useable in guiding a user in creation of a program

300

Receive user input via the one or more GUI input panels, wherein the user input specifies desired program functionality

302

Programmatically generate a graphical program (or graphical program portion) to implement the specified desired functionality

304

FIG. 6

Display a node in a graphical program in response to user input, wherein the node has no functionality or has default functionality ,

310

Receive user input requesting to specify desired functionality for the node

312

Display one or more graphical user interface (GUI) input panels associated with the node, wherein the GUI input panels comprise information useable in guiding a user to specify functionality for the node

314

Receive user input via the one or more GUI input panels, wherein the user input specifies desired functionality for the node

316

Programmatically generate graphical source code associated with the node to implement the specified desired functionality

318

FIG. 7

100290" 8E298860

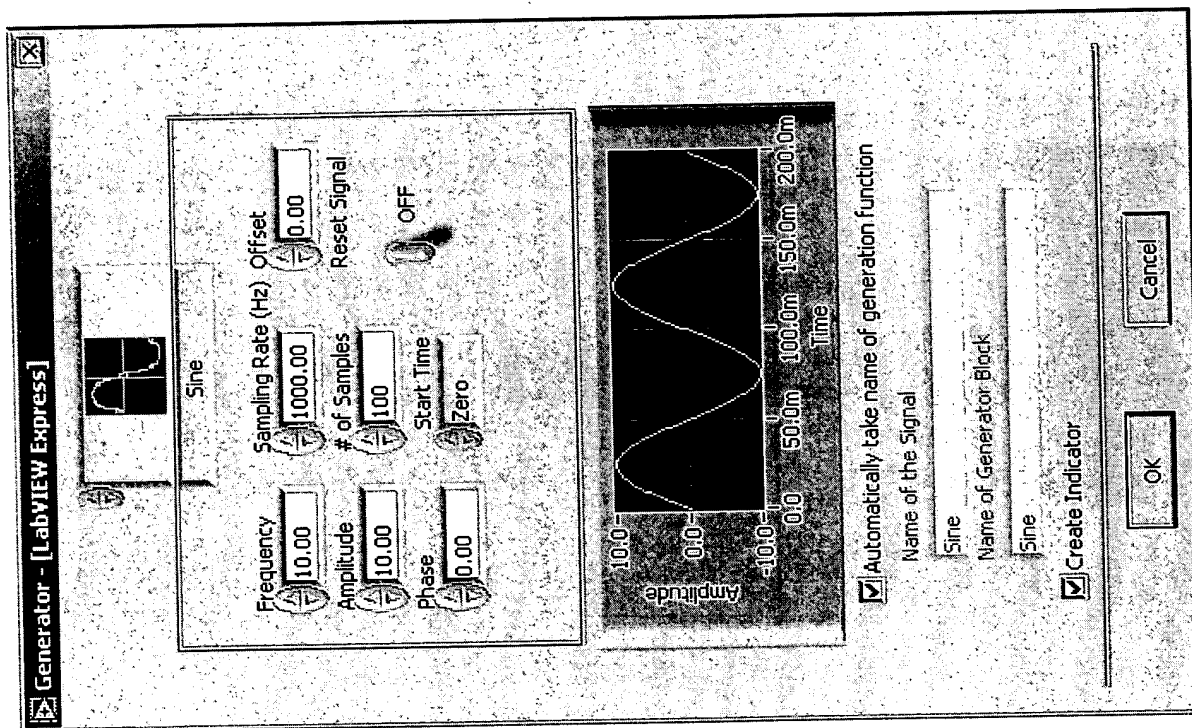


FIG. 8

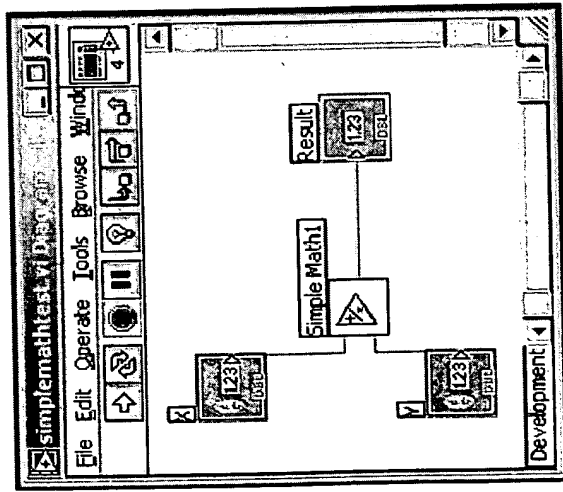


FIG. 9

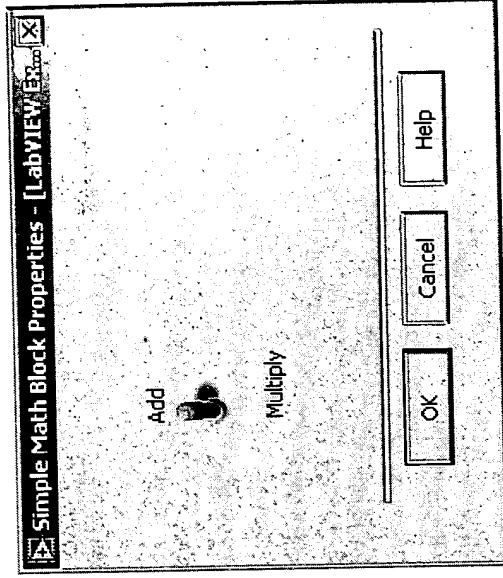


FIG. 10

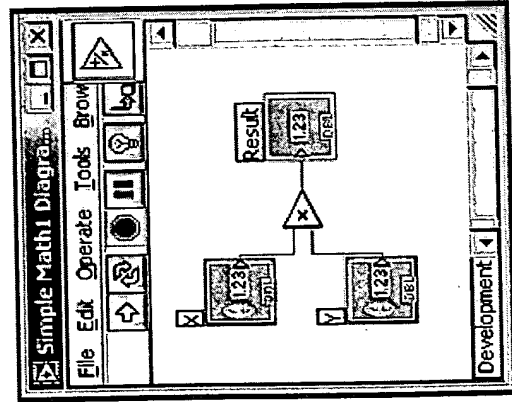


FIG. 11

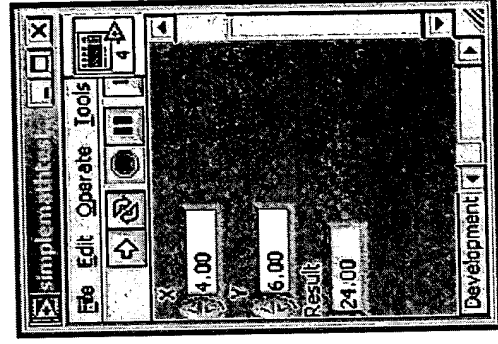


FIG. 12

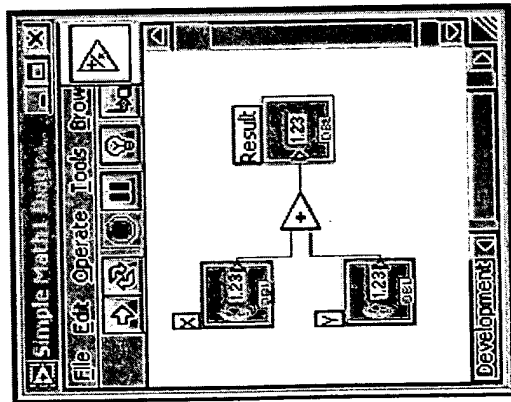


FIG. 13

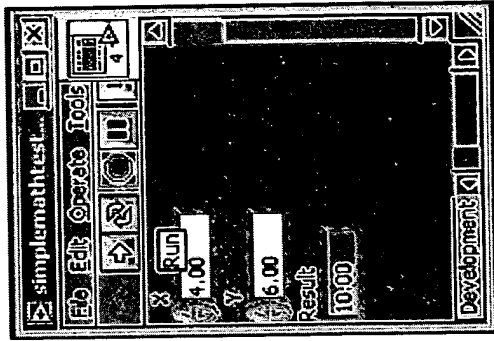


FIG. 14

FIG. 15

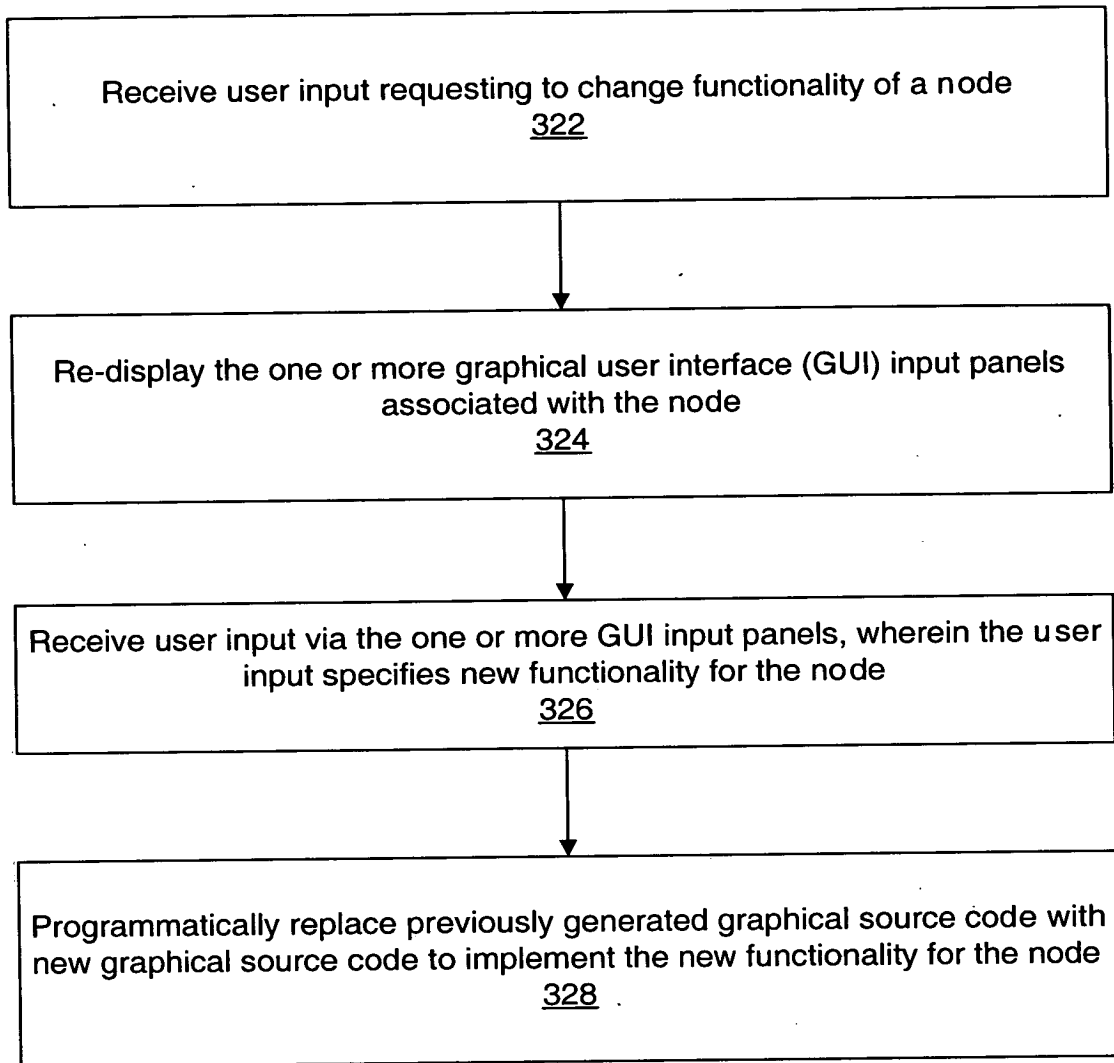


FIG. 15

Display information indicating a plurality of program processes, wherein each program process has a corresponding graphical program template, wherein each graphical program template comprises a plurality of interconnected nodes

400

Receive user input selecting a desired program process from the plurality of program processes

402

Programmatically include the graphical program template corresponding to the selected program process in the graphical program in response to the user input, for performing the selected program process

404

Display graphical user interface (GUI) input panel(s) to receive user input specifying desired functionality for one or more included nodes and programmatically generate graphical source code for the one or more nodes

406

FIG. 16

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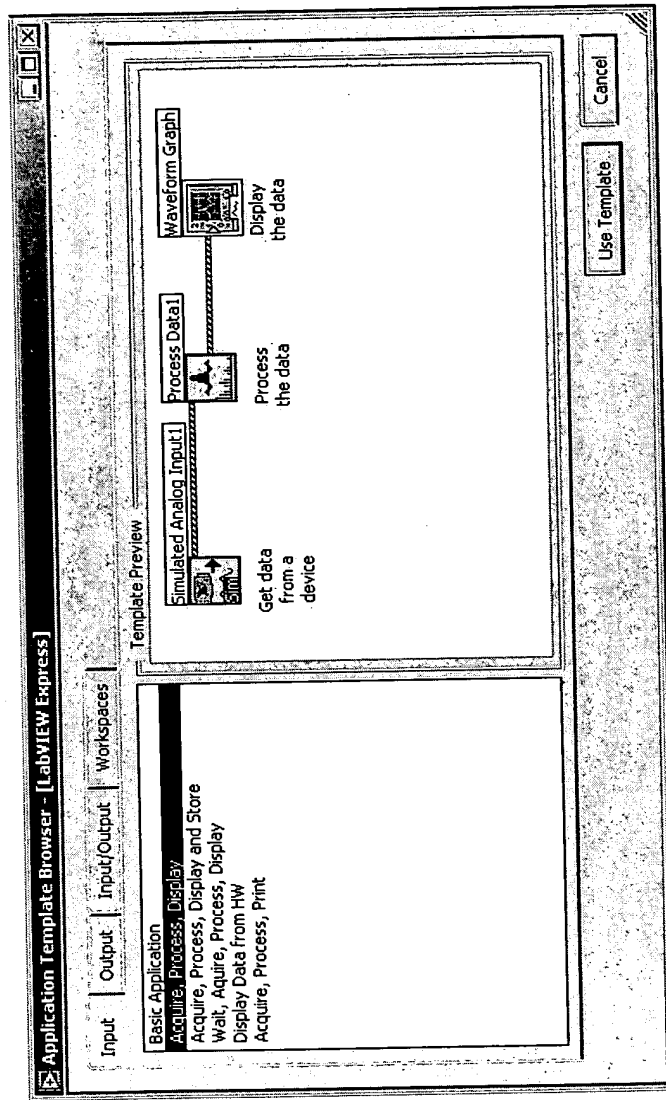


FIG. 17

FIG. 18

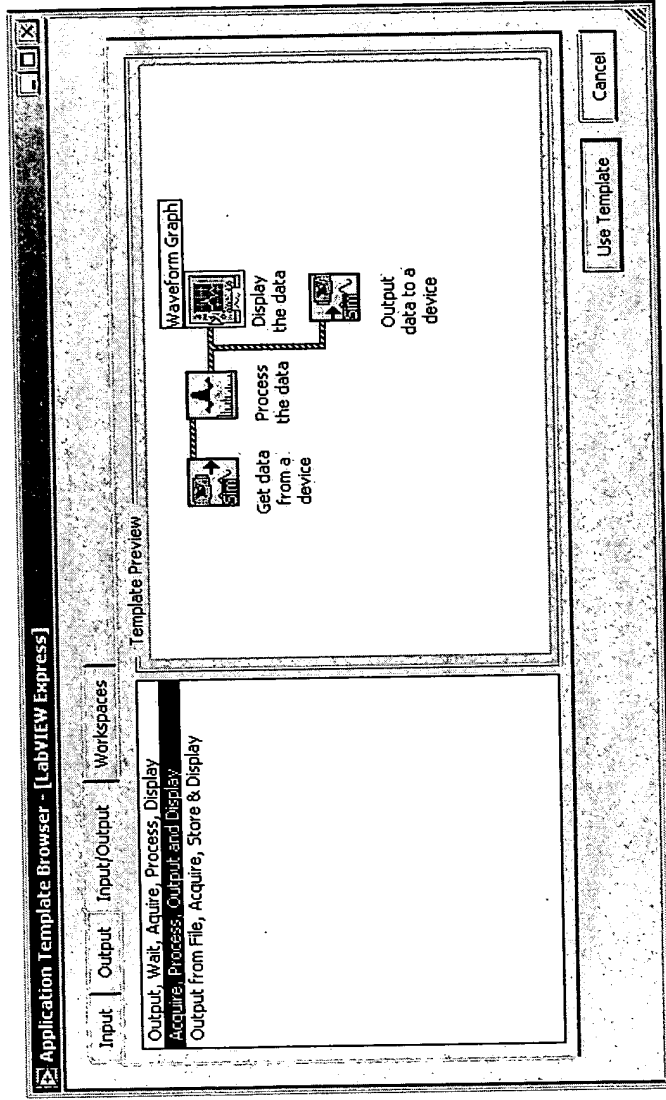


FIG. 18

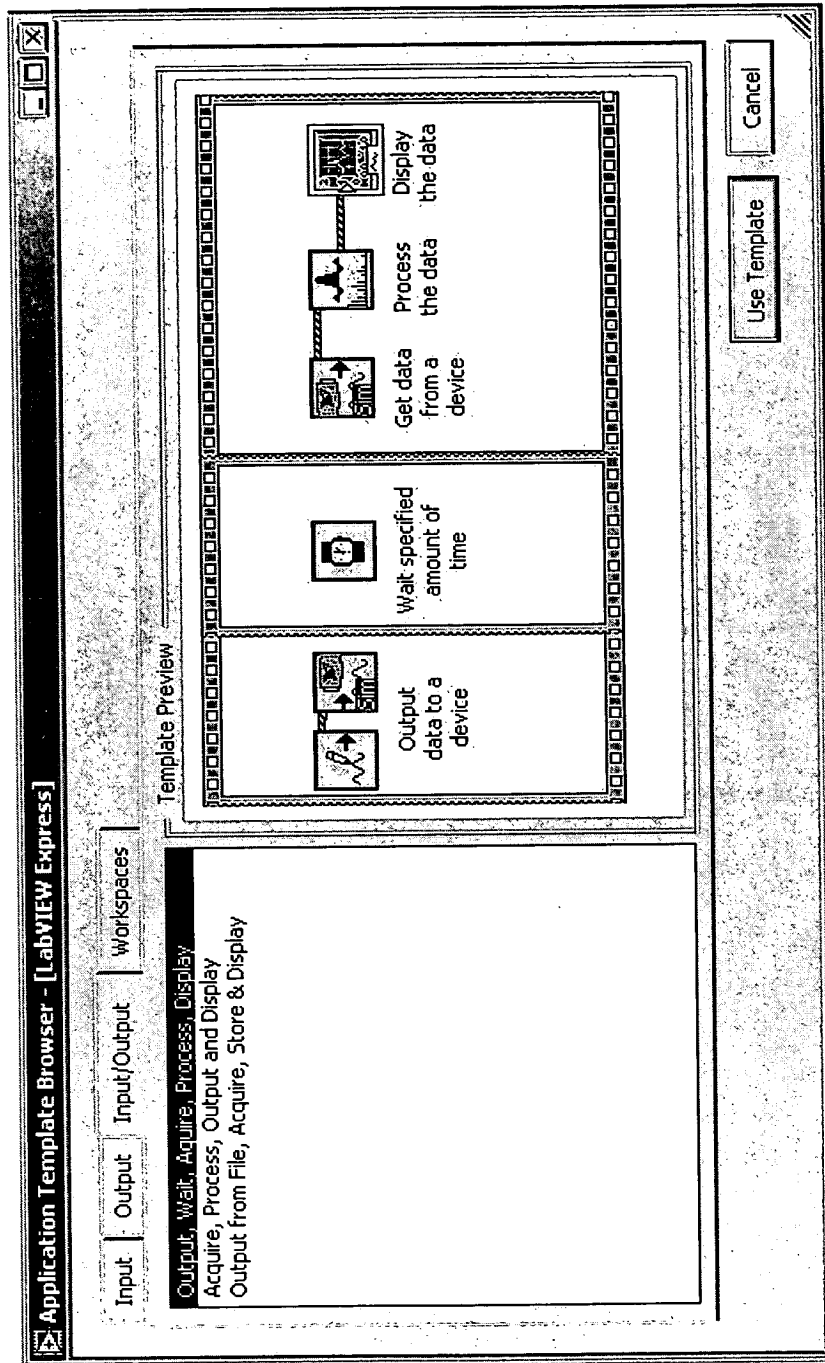


FIG. 19

The top screenshot displays the LabVIEW Express IDE window titled "New Application [tmp001.vi] - [LabVIEW Express]". The menu bar includes File, Edit, Operate, Tools, Browse, Window, and Help. The toolbar contains icons for navigation, execution, and zooming. The main workspace shows a "Waveform Graph" window with a plot of Amplitude (Y-axis, ranging from -10.0 to 10.0) versus Time (X-axis, ranging from 0.0 to 100.0). The plot is currently blank, showing only the axes and grid lines. The status bar at the bottom indicates "Development" mode.

The bottom screenshot displays the LabVIEW Express IDE window titled "New Application [tmp001.vi] Diagram - [LabVIEW Express]". The menu bar and toolbar are identical to the top screenshot. The main workspace shows a block diagram with three main components connected in a sequence: "Simulated Analog Input1" (labeled "Get data from a device"), "Process Data1" (labeled "Process the data"), and "Waveform Graph" (labeled "Display the data"). The status bar at the bottom indicates "Development" mode.

FIG. 20

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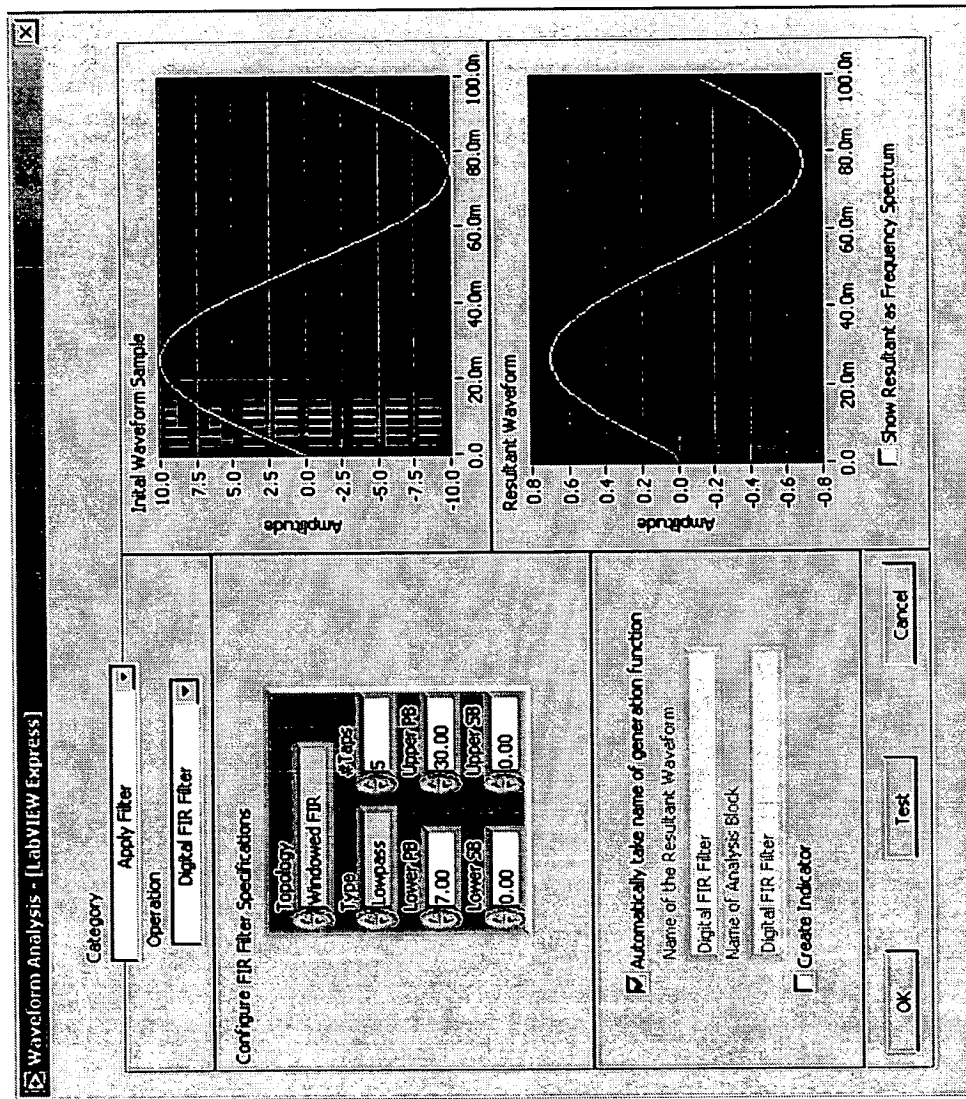


FIG. 21

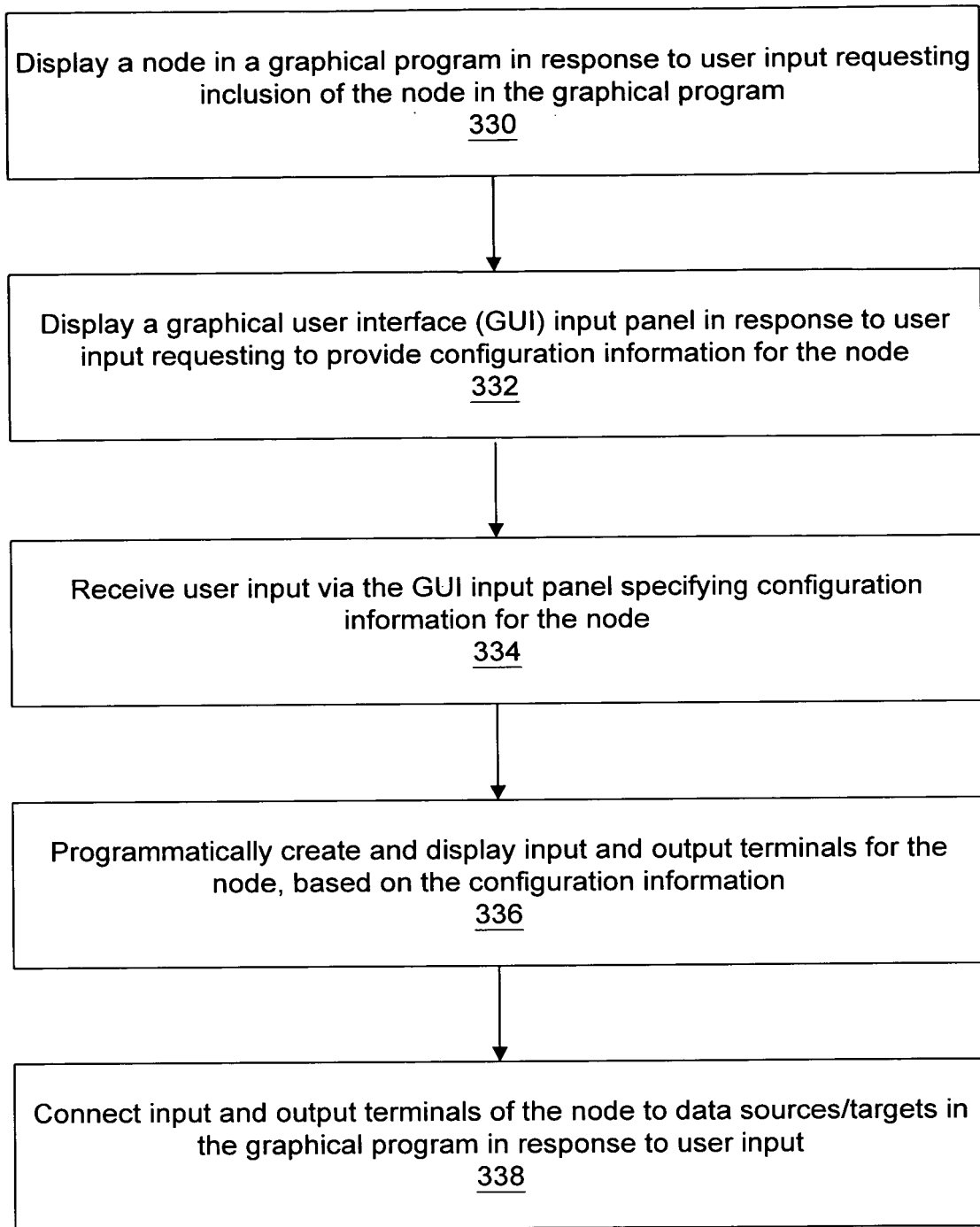


FIG. 22

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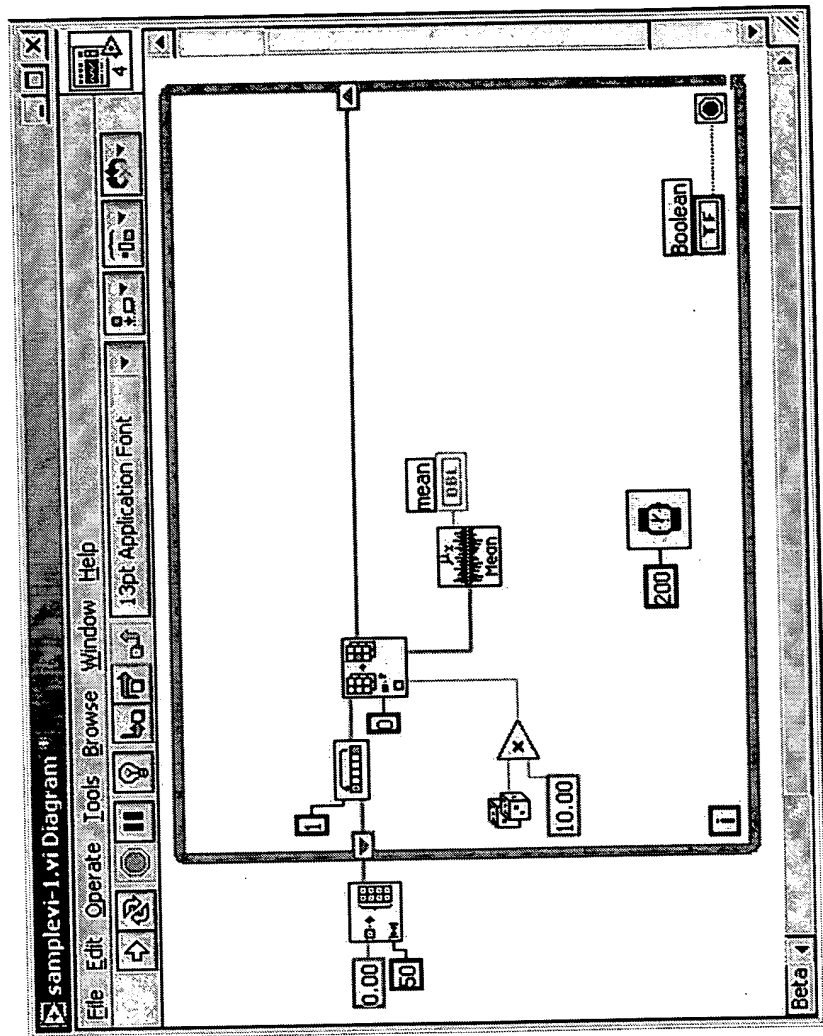


FIG. 23
(PRIOR ART)

FIG. 24

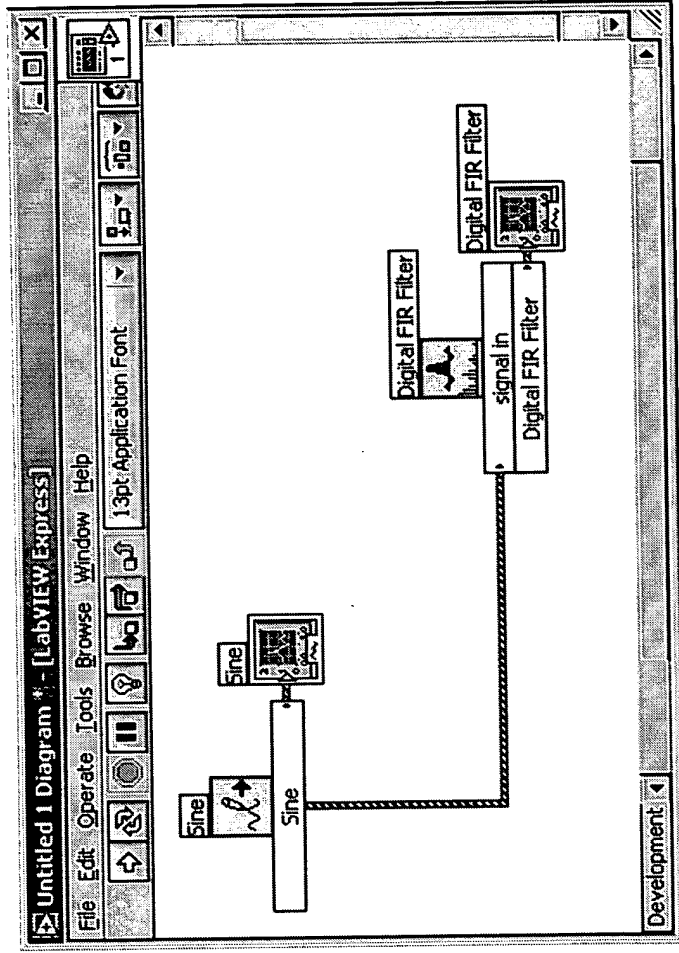


FIG. 24

700290" 8E298860

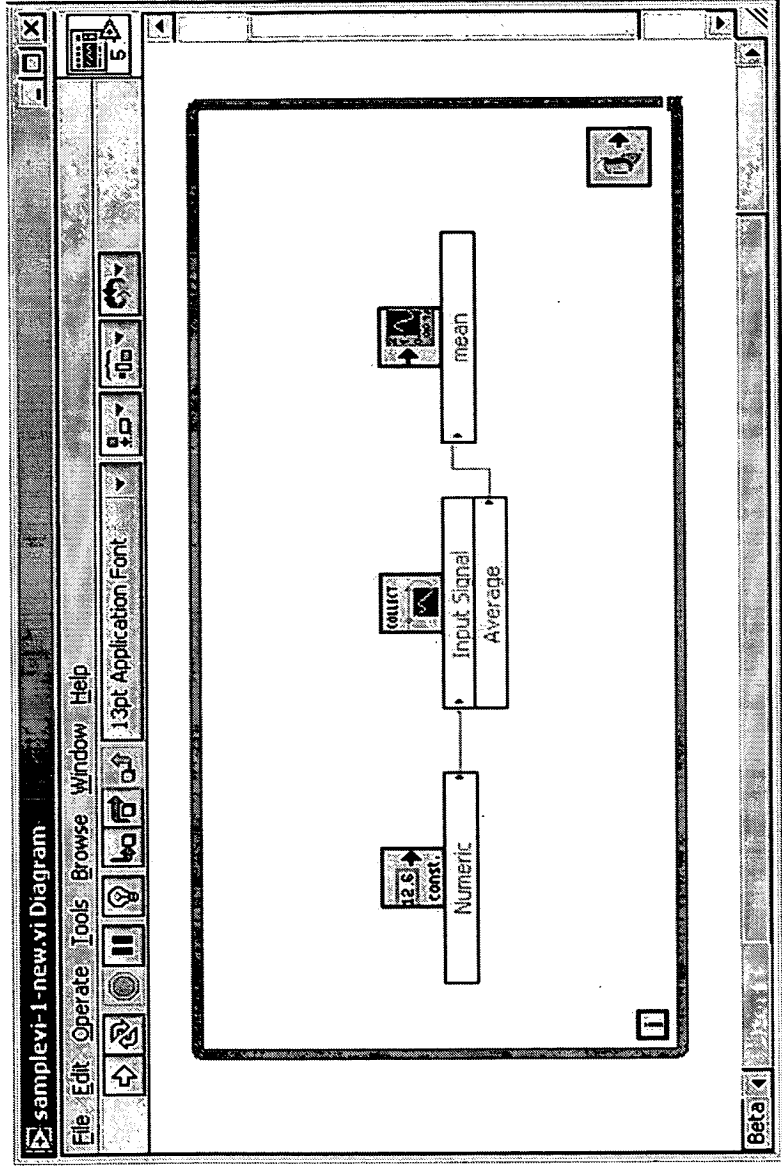


FIG. 25

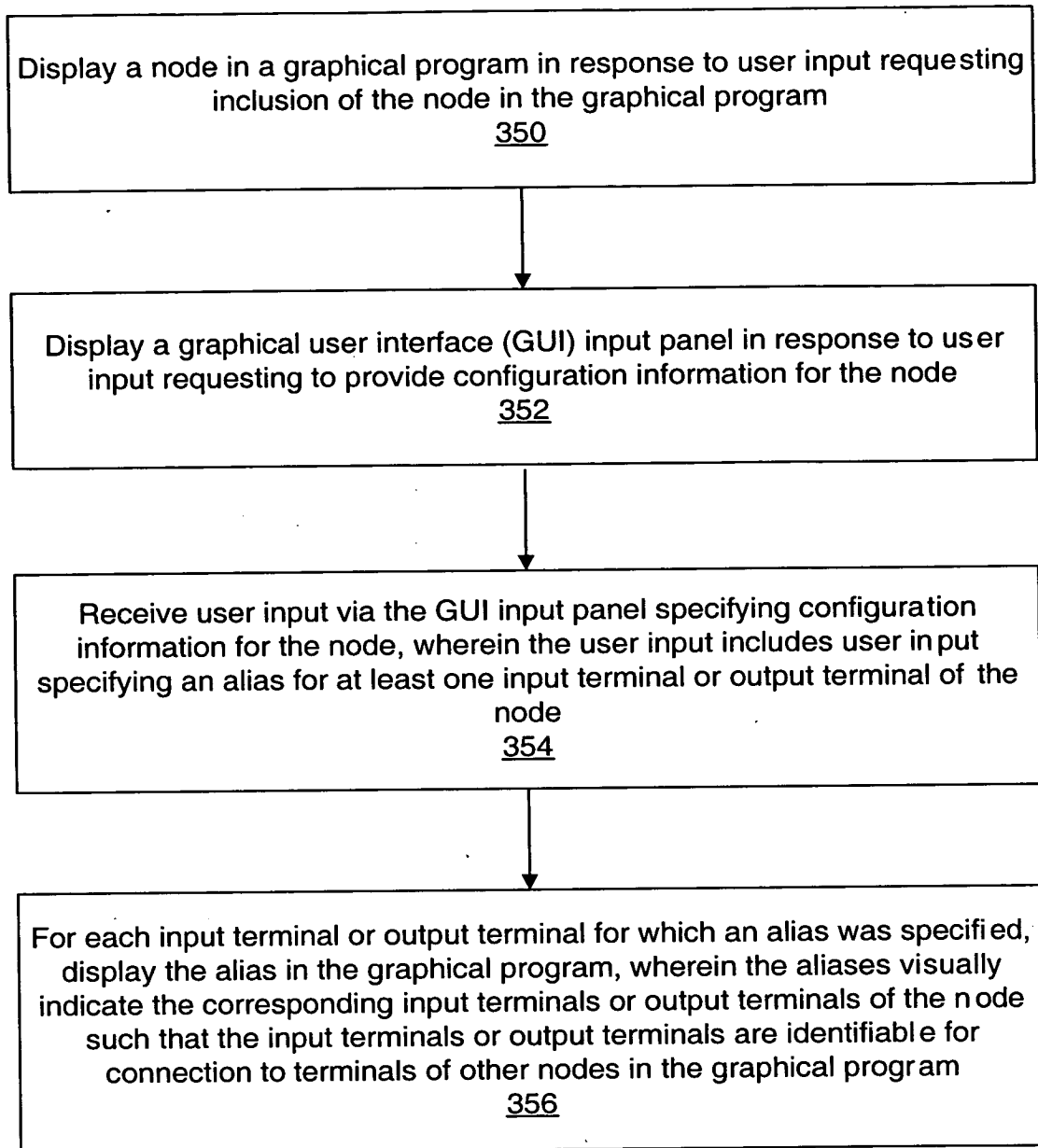


FIG. 26

09886238 062001



FIG. 27

100290" 8E298850

Collector Properties [Debug] C:\vme\lvre.exe [Debug]

Collector

Collection Mode
Sliding Block

Size Of Collection
100

☒ Automatically take name of collector function

Name of the Collection
Sliding Block

Name of Collector Block
Sliding Block

☐ Create Indicator

OK Cancel Help

FIG. 28

TOP290" 8E298860

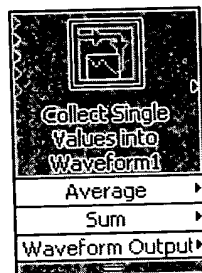


FIG. 29

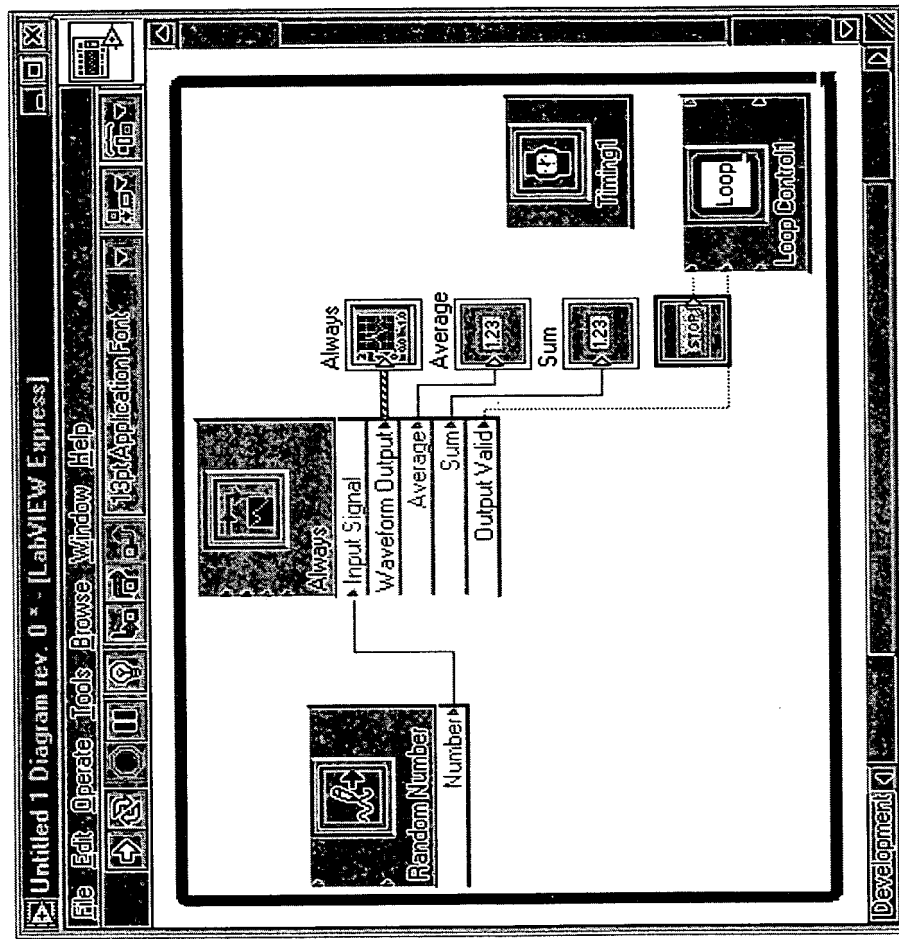


FIG. 30

T00290" 8E298860

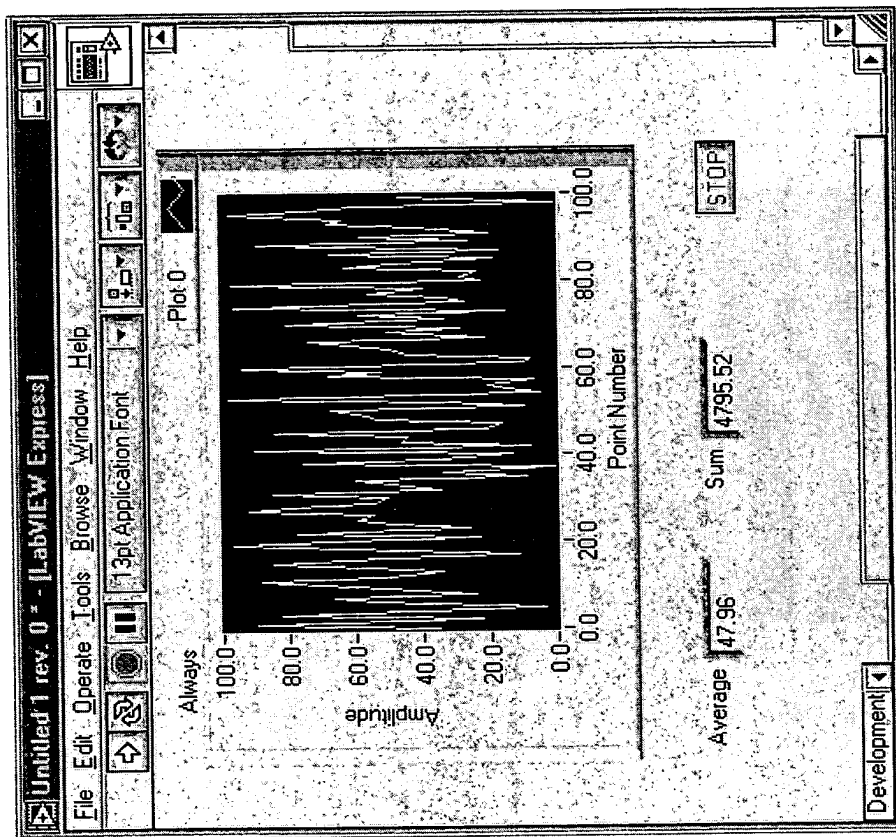


FIG. 31

09865238 062000
T00290"8E298860

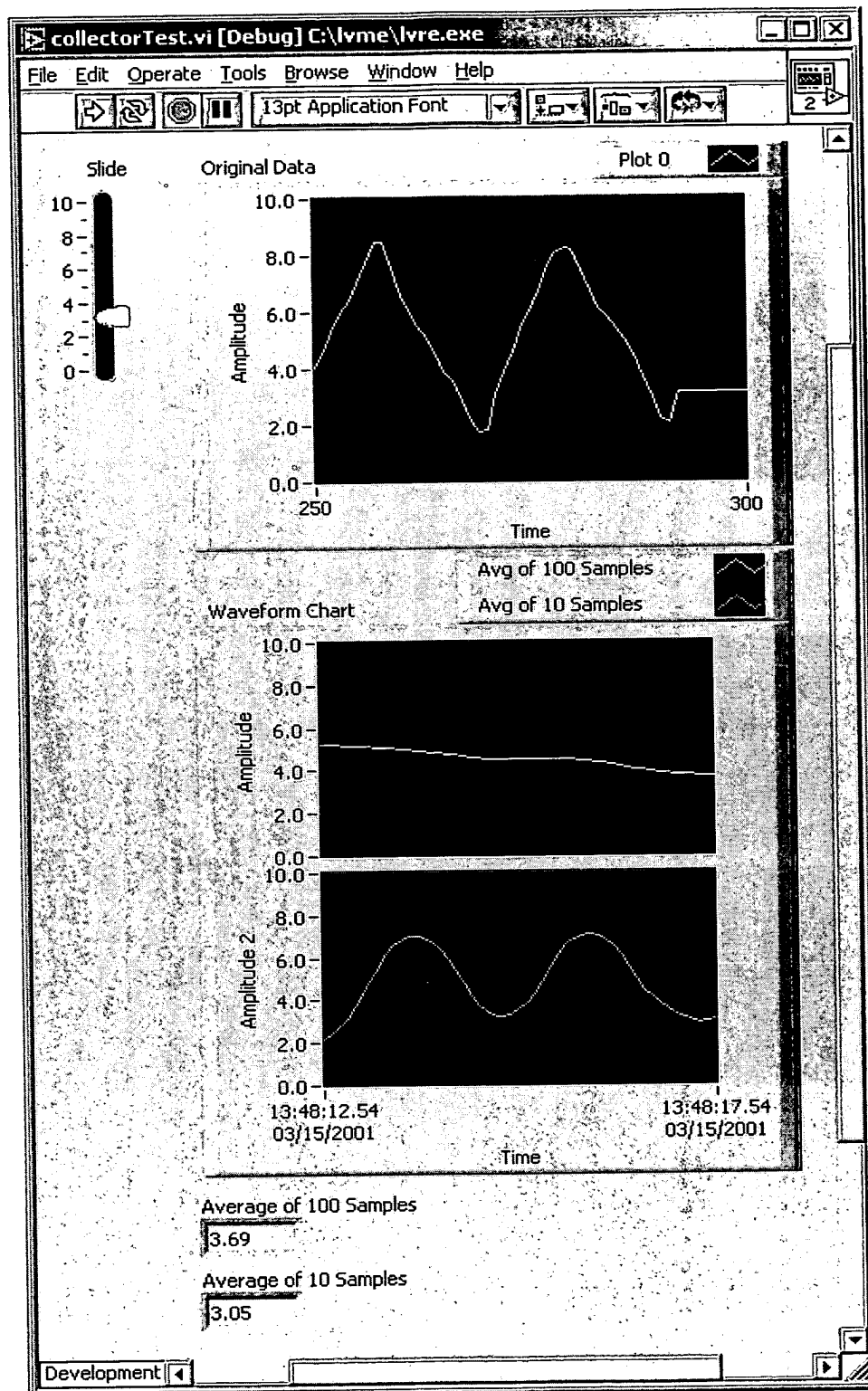


FIG. 33

100290" 82298660

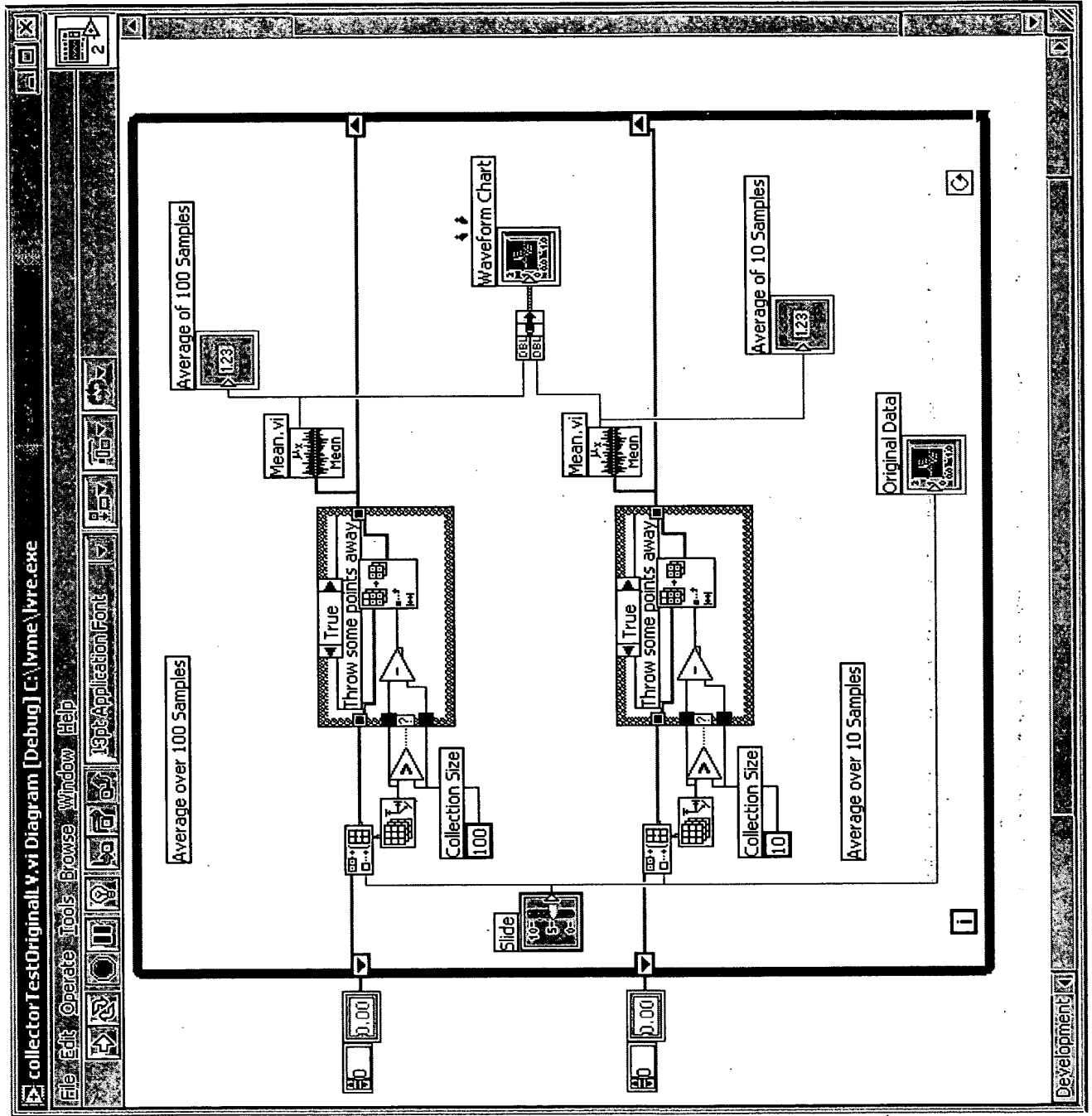


FIG. 34
(PRIOR ART)